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EXAMINER	
ODLAND, DAVID E	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/461,778	TADDIKEN, ALBERT H.
	Examiner	Art Unit
	David Odland	2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The following is a response to the amendments filed on 05/05/2004.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 10,11,16,19-21,22,23,33,18 and 35-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10 and 22 recite that the TDM signal is a TDMA signal. This limitation is confusing because the TDM signal is received over a 'cable input' as recited in claims 1 and 17, but TDMA is a wireless protocol.

Claims 11 and 23 recite that the TDM RF signal is further multiplexed with CDMA. This limitation is confusing because CDMA is a transmission protocol and not an actual signal itself, thus it is unclear how can it be multiplexed with the TDM RF signal. Furthermore, CDMA is a wireless transmission protocol, thus it is confusing how and why such signals would be received by a 'cable input', as recited in claim 1 and claim 17.

Claims 16 and 33 recite that the demodulator uses a first and second modulation type. This limitation is confusing. Demodulators demodulate signal that have been modulated for transport. So it is confusing how the demodulator 'uses' any modulation type since it does not modulate any signals.

Claims 18 and 35 recite that the TDM signal is received during external power loss. It is unclear how the TDM signal can be received if there is no power going to the receiver.

Claims 19-21 and 36-38 are rejected because they depend on claims 18 and 35, respectively.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 17 and 34 are rejected under 35 U.S.C. 102(a) as being anticipated by Knutson (WO 99/31811), hereafter referred to as Knutson.

Referring to claims 17 and 34, Knutson discloses a method for processing cable telephony signals (a TDMA multi-line system (see abstract and claim figure 2)), said method comprising receiving a time division multiplexed (TDM) RF cable signal from a cable input (a TDMA signal is received (see abstract and claim figure 2)), said TDM RF signal comprising frames having time slots (the timeslots are in a TDMA epoch (see abstract and claim figure 2)), pulsing on a fast acquisition time tuner for an allocated time slot in each of said frames (the handsets power on during their respective time slots (see abstract and claim figure 2)), said tuner for processing said TDM RF signal (the handset processes the signals during its respective timeslot (see abstract and claim figure 2)) and pulsing off said tuner for substantially the remainder of time in each of said frames, said frames having a frame period (the handset powers

off for the remainder of the TDMA epoch and the frames that he timeslots travel in, inherently, have an associated period (see abstract and claim figure 2)).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-4,10-16,46 and 48, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Beveridge (WO 99/34541), hereafter referred to as Beveridge, in view of Knutson.

Referring to claims 1 and 10, Beveridge discloses a cable telephony network interface unit (a network interface unit (NIU) (see figures 3 and 4 and claim 1)), said NIU comprising a radio frequency (RF) cable input for receiving RF telephony signals (the NIU receives cable audio/video signals as well as telephony signals (see figures 3 and 4 and claim 1)), and a voice telephony device compatible output for providing an output from said tuner to a telephony device (the NIU provides voice telephony signals to the subscribers telephone (see figures 3 and 4 and claim 1)).

Beveridge does not disclose that the telephony signals comprise a time division multiplexed (TDM) or TDMA RF signal having a frame rate or pulsing on and off the tuner during an acquisition time that is less that half the frame rate. However, Knutson discloses a system comprising TDM RF signals (a wireless system that utilizes a TDMA protocol (see abstract))

having a frame rate (the TDMA packets are transmitted during a TDM epoch (see figure 2)) and an acquisition time of less than half the frame rate (the handsets of the TDMA system receives data during its respective time slots and the time associated with the time slots are less than the time of a TDMA epoch (see abstract and figure 2)) whereby a tuner is pulsed on for signal acquisitions and pulsed off between signal acquisitions (the handset is powered on to receive packets during its respective time slot and is otherwise powered off (see abstract and figure 2)). It would have been obvious to one skilled in the art at the time of the invention to implement these features into the Beveridge system, because such features would make the Beveridge system more efficient, flexible, power efficient and reliable. Specifically, TDM signals provide better line utilization and bandwidth efficiency since a dedicated line and its bandwidth do not have to be allocated for every connection, thus allowing multiple telephones to communicate simultaneously over the same line. This would make the Beveridge system operate more efficiently and with increased flexibility. Furthermore, pulsing the tuner on during acquisition periods and pulsing off for the rest of the acquisition period of a received frame would reduce power consumption of the NIU. This is particularly important in Beveridge because as Beveridge mentions when the local power supply fails, the back-up battery with the help of a trickle circuit from the cable network are used to power the NIU for lifeline telephony support (see claim 1), therefore reducing power usage by the NIU will help save the life of the battery and make Beveridge more power efficient and reliable. Note, the TDM signals inherently have associated rates and periods.

Referring to claims 2 and 3, Beveridge discloses the system discussed above. Beveridge does not disclose that the acquisition time is less than one-fourth of said frame period or less than

about 5 milliseconds. However, Knutson discloses that the handsets have a receive period equal to 2 milliseconds, which is less that one quarter of the TDMA epoch period of 48 milliseconds and less that 5 milliseconds (see page 5 and figure 2)). Having such low acquisition times will allow for less power consumption since the tuner does not have to be on for a long amount of time. Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement this feature into Beveridge because doing so would reduce power consumption.

Referring to claim 4, Beveridge discloses the system discussed above. Beveridge does not disclose that the acquisition time is less than about 1 millisecond. However, having such a low acquisition time will allow for less power consumption since the tuner does not have to be on for a long amount of time. Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement this feature into Beveridge because doing so would reduce power consumption.

Referring to claim 11, Beveridge discloses the system discussed above. Beveridge does not disclose that the TDM RF signal is further multiplexed with code division multiple access (CDMA). However, It would have been obvious to one skilled in the art at the time of the invention to transport CDMA signals in Beveridge because CDMA signals provide increased capacity, interference protection and efficient spectrum, all making the Lifeline support in Beveridge more reliable.

Referring to claim 12, Beveridge discloses the system discussed above. Beveridge does not disclose that most of said tuner's components are located on a single integrated circuit. However, It would have been obvious to one skilled in the art at the time of the invention to

implement the components of the tuner in Beveridge on a single IC because doing so would make the tuner more compact and reduce the cost of producing such tuners.

Referring to claims 13-16, Beveridge discloses the system discussed above. Furthermore, Beveridge discloses that the RF telephony signals further comprise a continuous wave CW signal, and said tuner is capable of processing said CW signal (the tuner receives and processes a continuous audio/video signals that corresponds to cable television and voice telephony signals (see figure 3 and abstract));

said NIU receives electrical power via said cable input when said tuner is processing said TDM RF signal (when the local AC power fails the NIU receives power from the cable network through a trickle circuit (see abstract and claim 1 and figure 3)) and receives electrical power from a different source when processing said CW signal (the NIU CTSP is plugged into the local AC power supply when it receives television and cable telephony signals and receives power from the cable network when the AC power is interrupted (see abstract and figure 3));

a demodulator interposed between said voice telephony device compatible output and said tuner (the NIU CTSP is used for demodulating any voice calls (see figure 1));

said demodulator demodulates according to a first modulation type when said NIU receives electrical power from an external source (the NIU CTSP receives cable signals when being powered from a conventional AC power source (see claim 1)), and switches demodulating according to a second modulation type when said NIU receives power via said cable input (when AC power is lost the NIU receives a power signal from the cable network (see claim 1)).

Referring to claim 46, Beveridge discloses a method for providing lifeline support in cable telephony (a method of providing voice call support in a cable system when power is

interrupted at the customer premises (see figures 3 and 4 and claim 1)), said method comprising receiving electrical power from an external power source (an NIU receives power from a conventional AC power source (see figures 3 and 4 and claim 1)), receiving a continuous wave (CW) RF cable signal from a cable input (the NIU receives cable television and voice call signals (see figures 3 and 4 and claim 1)), processing said CW RF signal with an RF tuner (a tuner is used to tune to specific cable channels (see figures 3 and 4 and claim 1)), losing power from said external power source (power to the NIU is disrupted (see figures 3 and 4 and claim 1)), switching to receive said electrical power from said cable input (the cable system sends back-up power to the customer premises (see figures 3 and 4 and claim 1))

Beveridge does not disclose receiving time division multiplexed (TDM) RF signals, in place of continuous signals, having a frame rate or pulsing on and off the tuner during an allocated time slot. However, Knutson discloses a system comprising TDM RF signals (a wireless system that utilizes a TDMA protocol (see abstract)) having a frame rate (the TDMA packets are transmitted during a TDM epoch (see figure 2)) and pulsing on and off the receiver during allocated time slots (the handsets of the TDMA system receives data during its respective time slots and the time associated with the time slots are less than the time of a TDMA epoch (see abstract and figure 2)) whereby a tuner is pulsed on during the time slots and pulsed off for substantially the remainder of the frame (the handset is powered on to receive packets during its respective time slot and is otherwise powered off (see abstract and figure 2)). It would have been obvious to one skilled in the art at the time of the invention to implement these features into the Beveridge system, because such features would make the Beveridge system more efficient, flexible, power efficient and reliable. Specifically, TDM signals provide better line utilization and bandwidth

efficiency since a dedicated line and its bandwidth do not have to be allocated for every connection, thus allowing multiple telephones to communicate simultaneously over the same line. This would make the Beveridge system operate more efficiently and with increased flexibility. Furthermore, pulsing the tuner on during acquisition periods and pulsing off for the rest of the acquisition period of a received frame would reduce power consumption of the receiver. This is particularly important in Beveridge because as Beveridge mentions when the local power supply fails, the back-up battery with the help of a trickle circuit from the cable network are used to power the NIU for lifeline telephony support (see claim 1), therefore reducing power usage by the NIU will help save the life of the battery and make Beveridge more power efficient and reliable.

Referring to claim 48, Beveridge discloses the system discussed above. Furthermore, Beveridge discloses that the CW RF signal comprises video, data and voice information (the customer receives audio and video television signals as well as voice telephony signals from the cable network (see figures and 2 and page 2)).

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beveridge in view of Knutson and further in view of Denny (USPN 5,920,233), hereafter referred to as Denny.

Referring to claim 5, Beveridge discloses the system discussed above. Beveridge does not disclose that the tuner comprises fractional-N generated local oscillator reference frequency signals. However, Denny discloses a system wherein a tuner uses a fractional-N reference oscillator signal (see column 4 line 64 and column 5)). It would have been obvious to use such a feature in the Beveridge system because such a signal will provide the tuner to lock onto the

proper incoming signal, thus making sure the signals of Beveridge are properly synchronized. This is particularly important in Beveridge because the signals in Beveridge are audio, video and voice signal and are required to maintain proper timing to properly be understood by the users of the system.

9. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beveridge in view of Knutson and further in view of Birleson (USPN 5,847,612), hereafter referred to as Birleson.

Referring to claims 6-9, Beveridge discloses the system discussed above. Beveridge does not disclose generating said tuner's local oscillator reference frequency signals with multiple phase locked loops (PLLs), wherein said PLLs comprise a wide loop bandwidth and wherein said loop bandwidth is greater than said reference frequencies or greater than about 1KHz. However, Birleson discloses a system wherein a tuner comprises multiple PLLS generating the tuner's local oscillator reference frequencies (see figures 2 and 3 and columns 5 and 6)), wherein the PLLs are wide loop bandwidth greater than the reference frequencies and greater than 1 KHz (see figures 2 and 3 and columns 5 and 6)). It would have been obvious to one skilled in the art at the time of the invention to implement these features in the Beveridge system because, as Birleson points out in column 5 lines 47 and 48, such features would enable the tuner to get good close-in phase noise characteristics. Furthermore, proper tuning operations are important because signals in Beveridge are audio, video and voice signal and are required to maintain proper timing to properly be understood by the users of the system, especially systems that implement Lifeline functionality, as Beveridge does.

10. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beveridge in view of Knutson and further in view of Bridger et al. (USPN 6,272,209), hereafter referred to as Bridger.

Referring to claim 47, Beveridge discloses the system discussed above. Beveridge does not disclose that sending an alert signal to a cable plant after said loss of power from said external source, to inform said cable plant of said loss of power. However, Bridger discloses a system wherein Lifeline support is provided to a DSL modem in case of power loss at a customers premises, wherein when the power is lost the customers equipment sends a 'last gasp' message to the DSL Line Terminating equipment (LTE), which alerts the network that the customer is experiencing a power outage (see abstract and column 6). It would have been obvious to one skilled in the art at the time of the invention to implement this feature in Beveridge for many reasons. For instance, sending a message to the cable head-end in Beveridge that the external power has been lost will be quicker than the head-end having to detect such a condition on its own. Also, such a message would give a definite indication to the head-end that the power was lost, instead of the head-end having to determine if the power was lost which may not be a foolproof method. In both cases this makes the Beveridge system more reliable, which is very important in Beveridge because the cable system is to provide Lifeline support to the customer in cases of emergency.

11. Claims 17-19, 21-26, 32-36 and 38-40, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerszberg et al. (USPN 6,546,016), hereafter referred to as Gerszberg, in view of Knutson.

Referring to claims 17, 22, 34 and 39 Gerszberg discloses a method for processing cable telephony signals (a cable telephony system (see column 28 lines 30-65)), said method comprising receiving an RF cable signal from a cable input (a voice calls are received over the cable network (see column 27 lines 38-53)), pulsing on a fast acquisition time tuner for an allocated time slot (the cable NIU awakens only periodically to receive incoming data (see column 32 lines 18-54)), said tuner for processing said RF signal (the NIU processes the incoming RF cable signal (see columns 27-32)) and pulsing off said tuner for substantially the remainder of time (the NIU goes into a sleep cycle when its not awake awaiting incoming data (see column 32 lines 18-54)). Gerszberg does not disclose that the RF signals are TDM signal having time slots and an associated frame rate. However, Knutson discloses a system comprising TDM RF signals (a wireless system that utilizes a TDMA protocol (see abstract)) having a frame rate (the TDMA packets are transmitted during a TDM epoch (see figure 2)). It would have been obvious to one skilled in the art at the time of the invention to implement these features into the Gerszberg system, because such features would make the Gerszberg system more bandwidth efficient. Specifically, TDM signals provide better line utilization and bandwidth efficiency since a dedicated line and its bandwidth do not have to be allocated for every connection, thus allowing multiple telephones or end stations to communicate simultaneously over the same line. Thus, using a TDM protocol, such as that in Knutson, would make the Gerszberg system more efficiently.

Referring to claims 18,19, 35 and 36 Gerszberg discloses the system discussed above. Furthermore, Gerszberg discloses receiving an RF signal is received during a loss of power from an external source and receiving power from said cable input during said loss of power from said external source (the cable network sends power and voice signals through the coaxial cable during power outages at the customer premises (see columns 28 and 29)).

Referring to claims 21 and 38, Gerszberg discloses the system discussed above. Furthermore, Gerszberg discloses receiving and processing a continuous wave (CW) RF cable signal before said loss of power (the customer premises receives cable telephony and cable television signals before any power outage (see columns 27 and 28)). Gerszberg does not disclose switching to said receiving of said TDM RF cable signal after said loss of power. However, for the same reason stated above in the rejection of claim 17, it would have been obvious to one skilled in the art at the time of the invention to implement a TDM system, such as that taught by Knutson in the Gerszberg system.

Referring to claim 23, Gerszberg discloses the system discussed above. Gerszberg does not disclose that the TDM RF signal is further multiplexed using code division multiple access (CDMA). However, It would have been obvious to one skilled in the art at the time of the invention to transport CDMA signals in Gerszberg because CDMA signals provide increased capacity, interference protection and efficient spectrum, all making the Lifeline support of Gerszberg more reliable.

Referring to claims 24, 25 and 40, Gerszberg discloses the system discussed above. Gerszberg does not disclose that the acquisition time is less than one-fourth of said frame rate or less than about 5 milliseconds. However, Knutson discloses that the handsets have a receive

period equal to 2 milliseconds, which is less that one quarter of the TDMA epoch period of 48 milliseconds and less that 5 milliseconds (see page 5 and figure 2)). Having such low acquisition times will allow for less power consumption since the tuner does not have to be on for a long amount of time. Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement this feature into Gerszberg because doing so would reduce power consumption and save energy.

Referring to claim 26, Gerszberg discloses the system discussed above. Gerszberg does not disclose that the acquisition time is less than about 1 millisecond. However, having such a low acquisition time will allow for less power consumption since the tuner does not have to be on for a long amount of time. Therefore, it would have been obvious to one skilled in the art at the time of the invention to implement this feature into Gerszberg because doing so would reduce power consumption and save energy.

Referring to claims 32 and 33, Gerszberg discloses the system discussed above. Furthermore, Gerszberg discloses demodulating an output signal from said tuner (signals output and input to the tuner at the customer premises are inherently modulated and demodulated so that they can be carried to other elements of the network (see figure 1)); and

using a first modulation type when electrical power is received from an external source (the NIU receives power for the cable modem when there is no power outage at the customers premises (see column 32)), and switching to a second modulation type when electrical power is received via said cable input (only voice bandwidth (4Mhz) is supplied after a power outage at the customer premises (see column 32)).

12. Claims 20 and 37, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerszberg in view of Knutson and further in view of Bridger et al. (USPN 6,272,209), hereafter referred to as Bridger.

Referring to claims 20 and 37, Gerszberg discloses the system discussed above. Gerszberg does not disclose that sending an alert signal to a cable plant after said loss of power from said external source, to inform said cable plant of said loss of power. However, Bridger discloses a system wherein Lifeline support is provided to a DSL modem in case of power loss at a customers premises, wherein when the power is lost the customers equipment sends a 'last gasp' message to the DSL Line Terminating equipment (LTE), which alerts the network that the customer is experiencing a power outage (see abstract and column 6). It would have been obvious to one skilled in the art at the time of the invention to implement this feature in Gerszberg for many reasons. For instance, sending a message to the cable head-end in Gerszberg that the external power has been lost will be quicker than the head-end having to detect such a condition on its own. Also, such a message would give a definite indication to the head-end that the power was lost, instead of the head-end having to determine if the power was lost which may not be a foolproof method. In both cases this makes the Gerszberg system more reliable, which is very important in Gerszberg because the cable system is to provide Lifeline support to the customer in cases of emergency.

13. Claims 27 and 41, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerszberg in view of Knutson and further in view of Denny.

Referring to claims 27 and 41, Gerszberg discloses the system discussed above. Gerszberg does not disclose that the tuner comprises fractional-N generated local oscillator reference frequency signals. However, Denny discloses a system wherein a tuner uses a fractional-N reference oscillator signal (see column 4 line 64 and column 5)). It would have been obvious to use such a feature in the Gerszberg system because such a signal will provide the tuner to lock onto the proper incoming signal, thus making sure the signals of Gerszberg are properly synchronized. This is particularly important in Gerszberg because the signals in Gerszberg are audio, video and voice signal and are required to maintain proper timing to properly be understood by the users of the system.

14. Claims 28-31 and 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerszberg in view of Knutson and further in view of Birleson.

Referring to claims 28-31 and 42-45, Gerszberg discloses the system discussed above. Gerszberg does not disclose generating said tuner's local oscillator reference frequencies with multiple phase locked loops (PLLs), wherein said PLLs comprise a wide loop bandwidth and wherein said loop bandwidth is greater than said reference frequencies or greater than about 1KHz. However, Birleson discloses a system wherein a tuner comprises multiple PLLS generating the tuner's local oscillator reference frequencies (see figures 2 and 3 and columns 5 and 6)), wherein the PLLs are wide loop bandwidth greater than the reference frequencies and greater than 1 KHz (see figures 2 and 3 and columns 5 and 6)). It would have been obvious to one skilled in the art at the time of the invention to implement these features in the Gerszberg system because, as Birleson points out in column 5 lines 47 and 48, such features would enable

the tuner to get good close-in phase noise characteristics. Furthermore, proper tuning operations are important because signals in Gerszberg are audio, video and voice signal and are required to maintain proper timing to properly be understood by the users of the system, especially systems that implement Lifeline functionality, as Gerszberg does.

Response to Arguments

15. Applicant's arguments filed 05/05/2004 have been fully considered but they are not persuasive.

On page 11 paragraph 2 regarding claims 10 and 22, the Applicant argues that "...because TDMA is a wireless protocol does not mean that it cannot be implemented on other than a wireless network..." The Examiner respectfully disagrees. TDMA is a through-the-air protocol used with cellar telephone systems and it is not known in the art or described in the Applicants specification as to how TDMA can be used in a wired environment, therefore the claim is unclear and indefinite.

On page 11 paragraph 3 regarding claims 11 and 23, the Applicant argues that the claims have been amended and support for these amendments are founf in the specification on page 14 lines 4-8. The Examiner respectfully disagrees. This section of the specification does not describe how any TDM RF signal is multiplexed using CDMA. Furthermore, this limitation is confusing. A TDM RF signal is already multiplexed (i.e. Time-Division-Multiplexed), thus it is unclear how CDMA is used to again multiplex the TDM signal.

On page 12 paragraph 2 regarding claims 18 and 35, the Applicant argues that the Examiner has misunderstood the wording of the claim and that the claims do not recite losing

power from all power sources but rather there is power loss from an external source. The Examiner respectfully disagrees. The specification does not describe any other power source except the external for local power, thus when that power is lost, and the TDM signal is received it is unclear how this TDM signal is received since there is no power powering the tuner.

On page 13 first and second paragraphs regarding claims 17 and 34, the Applicant argues that Knutson is an improper reference because Knutson does not teach of a "cable" signal and "cable" input. The Examiner respectfully disagrees. The system of Knutson is a wireless system however, as is known in the art, a wireless telecommunications system still has wired parts. In Knutson TDMA handheld devices are receiving signals from an associated base unit and this base unit is connected to a landline system in order to transport telephony calls. Therefore, the signals received by the handheld units are signals that have traveled over cables and are input into the wireless section of the network in order to be sent to the handheld device. Therefore, Knutson does show these limitations of the claim.

On page 14 first paragraph, the Applicant argues that the combination of Knutson in view of Beveridge is improper because such a combination requires substantial modifications of transceivers, network interfaces units and other communications infrastructure and so one of ordinary skill would not have made such a modification. The Examiner respectfully disagrees. Such modification would not be substantial. Namely, must if not all of these network elements are implemented using software-based instructions that are executed using CPUs in these network elements and as such it is very easy and cost effective to modify such instructions. Furthermore, assuming *arguendo* and the changes were substantial, this would not necessarily deter or prevent a skilled artisan from performing the modifications since the benefits of doing so

outweigh the costs of modification. Namely, in this case the modifying Beveridge to include the indicated features of Knutson because such features would make the Beveridge system more efficient, flexible, power efficient and reliable. Specifically, TDM signals provide better line utilization and bandwidth efficiency since a dedicated line and its bandwidth do not have to be allocated for every connection, thus allowing multiple telephones to communicate simultaneously over the same line. This would make the Beveridge system operate more efficiently and with increased flexibility. Furthermore, the references do not need to teach exactly *how* two systems can be implemented together, but only need to show motivation for combining them, which *is* shown, as discussed above. The detail of how the two systems are exactly implemented together is left to a skilled artisan to determine since there may be an infinite number of ways to use the systems together.

On page 14, paragraph 3 regarding claim 1, the Applicant argues that Knutson does not disclose an acquisition time. The Examiner respectfully disagrees. Knutson clearly states that "Each handset powers on its transceiver during its respective data and audio packet time slots as necessary to synchronize with the base unit..." (see abstract of Knutson). Therefore, clearly Knutson discloses an 'acquisition time'.

On page 15 second paragraph regarding claim 46, the Applicant argues that Beveridge and Knutson do not teach "processing said CW RF signal with an RF tuner" and "receiving a TDM RF telephony signal *in place of* said CW RF signal." The Examiner respectfully disagrees. Beveridge discloses receiving cable and telephone signals and cable signals (i.e. tv channels) are tuned using a tuner (i.e. set-top box). Furthermore, Beveridge discloses receiving a signal in place of the CW RF signal since Beveridge teaches switching to receive power from a cable

input when there is AC power loss. What Beveridge does not disclose is that this received cable input is in a TDM RF format. However, Knutson discloses receiving TDMA signals and it would have been obvious to combine these systems for the reasons discussed above in the rejections.

On page 17 paragraph 3 regarding claim 17, the Applicant contends that Gerszberg does not teach of acquisition time. The Examiner respectfully disagrees. Gerszberg teaches that the NIU awakens periodically to receive data, therefore it has an associated 'acquisition time'.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Odland, who can be reached at (703) 305-3231 on Monday – Friday during the hours of 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached at (703) 305-4744. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, who can be reached at (703) 305-4750.

deo

July 26, 2004

HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600